



IFW

PTO/SB/21 (02-04)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/675,638
	Filing Date	September 29, 2003
	First Named Inventor	Reddy et al.
	Art Unit	6062
	Examiner Name	Not Yet Known
Total Number of Pages in This Submission	Attorney Docket Number	I-2-0386.1US

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance communication to Technology Center (TC)
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	See Remarks
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Response to Missing Parts/Incomplete Application	Remarks	
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	Communication Re Favorable IPER, copy of approved claims as published and copy of International Preliminary Examination Report	

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	John C. Donch Jr. Reg. No. 43,593
Signature	
Date	July 20, 2004

CERTIFICATE OF TRANSMISSION/MAILING	
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.	
Typed or printed name	John C. Donch Jr.
Signature	
Date	July 20, 2004

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

Reddy et al.

Application No.: 10/675,638

Confirmation No.: 6062

Filed: September 29, 2003

For: LOCATION BASED METHOD AND
SYSTEM FOR WIRELESS MOBILE UNIT
COMMUNICATION

Group: Not Yet Known

Examiner: Not Yet Known

Our File: I-2-0386.1US

Date: July 20, 2004

**COMMUNICATION REGARDING FAVORABLE IPER BY
IPEA/US IN CORRESPONDING INTERNATIONAL APPLICATION**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This communication is to advise the Examiner of the favorable International Preliminary Examination Report (IPER) issued by the United States Patent and Trademark Office acting as International Preliminary Examination Authority in a corresponding international application. A copy of the IPER is enclosed.

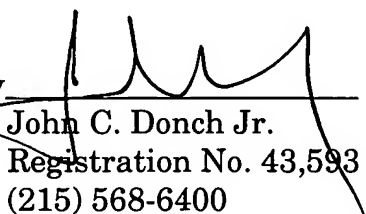
The original PCT claims correspond to the claims in this U.S. application. A copy of the approved claims as published is also enclosed.

Applicant: Reddy et al.
Application No.: 10/675,638

In view of the fact that PCT claims 1-23 have all been found to meet the international standards of patentability, prompt examination and allowance are respectfully requested.

Respectfully submitted,

Reddy et al.

By 
John C. Donch Jr.
Registration No. 43,593
(215) 568-6400

Volpe and Koenig, P.C.
United Plaza, Suite 1600
30 South 17th Street
Philadelphia, PA 19103

JCD/dmr
Enclosures (2)

PATENT COOPERATION TREATY

RECEIVED
AM/PM

JUN 18 2004

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
JOHN C. JR. DONCH
VOLPE AND KOENIG, P.C.
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

PCT

VOLPE & KOENIG, P.C.

NOTIFICATION OF TRANSMITTAL OF
INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing
(day/month/year)**14 JUN 2004**

Applicant's or agent's file reference

I-2-0386.1WO

IMPORTANT NOTIFICATION

International application No.

PCT/US03/30968

International filing date (day/month/year)

30 September 2003 (30.09.2003)

Priority date (day/month/year)

01 October 2002 (01.10.2002)

Applicant

INTERDIGITAL TECHNOLOGY CORPORATION

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US

Mail Stop PCT, Attn: IPEA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Huy Nguyen

Telephone No. 703-305-3283

Form PCT/IPEA/416 (July 1992)

PATENT COOPERATION TREATY

PCT


RECEIVED
AM/PM

JUN 18 2004

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

VOLPE & KOENIG, P.C.

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference I-2-0386.1WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US03/30968	International filing date (day/month/year) 30 September 2003 (30.09.2003)	Priority date (day/month/year) 01 October 2002 (01.10.2002)
International Patent Classification (IPC) or national classification and IPC IPC(7): H04Q 7/20 and US Cl.: 456.1, 456.3		
Applicant INTERDIGITAL TECHNOLOGY CORPORATION		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>0</u> sheets.</p> <p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>		
Date of submission of the demand 23 April 2004 (23.04.2004)	Date of completion of this report 26 May 2004 (26.05.2004)	
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Huy Nguyen  Telephone No. 703-305-3283	

Form PCT/IPEA/409 (cover sheet)(July 1998)

I. Basis of the report**1. With regard to the elements of the international application:***

- ☒ the international application as originally filed.
- ☒ the description:
pages 1-13 as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____
- ☒ the claims:
pages 14-19, as originally filed
pages NONE, as amended (together with any statement) under Article 19
pages NONE, filed with the demand
pages NONE, filed with the letter of _____
- ☒ the drawings:
pages 1-3, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages None
- ☒ the claims, Nos. None
- ☒ the drawings, sheets/fig None

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/30968

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims <u>1-23</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>1-23</u>	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims <u>1-23</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-23 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest method for wireless mobile unit communication within a wireless network having geographic area for preferred communication usage, comprising the steps of: determining an estimated geographic location of a mobile unit; and providing the mobile unit with relative position data of at least one preferred communication area relative to the determined mobile unit estimated location.

CLAIMS

What is claimed is:

1. A method for wireless mobile unit communication within a wireless network having geographic areas for preferred communication usage, comprising the steps of:

determining an estimated geographic location of a mobile unit; and
providing the mobile unit with relative position data of at least one preferred communication area relative to the determined mobile unit estimated location.

2. The method of claim 1, further comprising the steps of:
initiating a request for a pre-designated preferred communication area location by the mobile unit transmission; and
receiving the request by a network base station.

3. The method of claim 2, wherein the mobile unit is equipped with a global positioning system (GPS), the mobile unit estimated location is determined by using the mobile unit's global positioning system (GPS), the mobile unit request transmission includes current mobile unit estimated location data, and the network base station transmits to the mobile unit relative position data that is determined by the network based on the current mobile unit estimated location data.

4. The method of claim 3, wherein the relative position data transmitted by the network base station to the mobile unit is determined by the network, based on the current mobile unit estimated location data and dynamic data of preferred communication area usage.

5. The method of claim 2, wherein a current mobile unit estimated location is determined by the wireless network analyzing data related to physical properties of the mobile unit request transmission and the network base station transmits to the mobile unit relative position data that is determined by the network based on the current mobile unit estimated location data.

6. The method of claim 5, wherein the relative position data transmitted by the network base station to the mobile unit is determined by the network, based on the current mobile unit estimated location data and dynamic data of pre-designated preferred communication area usage.

7. The method of claim 2, wherein the mobile unit is equipped with a global positioning system (GPS), the mobile unit estimated location is determined by using the mobile unit's global positioning system (GPS), the network base station transmits to the mobile unit geographic location data of all network pre-designated preferred communication areas serviced by the base station, and relative position data is determined by the mobile unit.

8. The method of claim 2, wherein the network permits direct mobile unit wireless communications with network base stations and also peer-to-peer wireless communications between mobile units and wherein the request initiated by the mobile unit and received by the network base station is relayed via a different mobile unit located in a pre-designated preferred communication area serviced by the base station.

9. The method of claim 1, wherein the network monitors determined mobile unit estimated locations and relative position data is periodically transmitted to the mobile unit that is determined by the network, based on

current mobile unit estimated location data and dynamic data of network usage.

10. The method of claim 1, wherein the mobile unit is equipped with a global positioning system (GPS) and the mobile unit estimated location is determined by using the mobile unit's global positioning system (GPS).

11. The method of claim 1, wherein relative position data is determined by the network based on the determined mobile unit estimated location data and dynamic data of network usage data such that a ranked preference order of preferred communication areas is determined and relative position data at least a first preferred communication area preference is transmitted by a network base station to the mobile unit.

12. The method of claim 1, further comprising the steps of:
defining preferred communication areas by respective sets of geographical coordinates;
storing said coordinate sets in a network database; and
selectively transmitting from a network base station one or more of the data sets to provide the mobile unit with relative position data.

13. The method of claim 1, wherein the mobile unit is equipped with a map display, the method of further comprising the step of using relative position data to display hot spot areas relative to the estimated mobile unit location and relocating the mobile unit to a preferred communication area based on the relative position data.

14. A mobile unit for communication within a wireless network having geographic areas pre-designated for preferred communication usage, comprising:

a transmitter that is configured to initiate a request for a pre-designated preferred communication area location when the mobile unit is not within a hot spot area of the network;

a receiver configured to receive geographic location data corresponding to at least one pre-designated preferred communication area serviced by the network; and

a user output device for alerting a mobile unit user of the relative position of at least one pre-designated preferred communication area serviced by the network to a determined mobile unit estimated location.

15. The invention of claim 14, further comprising a global positioning system (GPS) that determines an estimated location of the mobile unit, wherein the transmitter is configured to transmit the pre-designated preferred communication location request by transmitting a signal that includes current mobile unit estimated location data, and wherein the mobile unit receiver is configured to receive geographic location data corresponding to at least one pre-designated preferred communication area in the form of relative position data that is determined by the network based on the transmitted mobile unit estimated location data.

16. The invention of claim 14, wherein the mobile unit receiver is configured to receive geographic location data corresponding to at least one pre-designated preferred communication area in the form of relative position data that is determined by the network, based on a mobile unit estimated location determined by the wireless network analyzing data related to physical properties of the mobile unit request transmission.

17. The invention of claim 14, further comprising a global positioning system (GPS) that determines an estimated location of the mobile unit and that calculates relative position data based on geographic location data

corresponding to at least one pre-designated preferred communication area serviced by the network received in response to a transmitted request.

18. The invention of claim 14, wherein the mobile unit is configured for direct communication with network base stations and also peer-to-peer wireless communications with other mobile units and wherein the mobile unit receiver is also configured to receive a response to a transmitted request via a relay from another mobile unit in direct communication with a network base station.

19. The invention of claim 14, further comprising a map display configured to visually display pre-designated preferred communication areas relative to the estimated mobile unit location.

20. The invention of claim 14, wherein the mobile unit is configured for wireless communication in a wireless local area network (WLAN).

21. The invention of claim 14, wherein the mobile unit is configured for wireless communication in a time division duplex (TDD) telecommunications system.

22. The invention of claim 14, wherein the mobile unit is configured for wireless communication in a frequency division duplex (FDD) telecommunications system.

23. The invention of claim 14, wherein the user output device for alerting a mobile unit user of the relative position comprises a power use indicator that is active when the mobile unit is not physically located in a pre-

I-2-0386.1WO

designated preferred communication area where power consumption is relatively high.